

# **OceanTeacher goes global: The OceanTeacher Global Classroom**

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One of the major objectives of the IODE Programme (<http://www.iode.org>) is to assist IOC Member States to acquire the necessary capacity to manage marine data and information, and thus become full and equitable partners in IODE. With the establishment of the IOC Project Office for IODE in April 2005 in Oostende (Belgium), IODE has been able, for the first time, to organize a sustained training programme for both data and information management, with OceanTeacher as IODE's capacity development platform and tool.

The OceanTeacher e-learning platform (<http://www.oceanteacher.org>) has two main components: the OceanTeacher Digital Library (a collection of knowledge and resources) and the OceanTeacher OpenCourseWare (a collection of course outlines and courseware). In addition the system includes video recordings of courses that are included in the OpenCourseWare pages (<http://vimeo.com/iode>). OceanTeacher has become a comprehensive web-based training system structured in a way to support classroom training (face-to-face), blended training (combining classroom and distance learning), online tutoring and online self-learning. When the Digital Library and the OpenCourseWare are used together for a training event this is called an OceanTeacher Classroom.

The objective of the OceanTeacher Academy is to establish a training environment that provides an annual teaching programme of courses related to oceanographic data and information management and related disciplines that will contribute to the sustainable management of oceans and coastal areas. The OceanTeacher Training Academy thus underpins all Ocean Data and Information Networks (ODINs) developed under IOC/IODE activities. The development of the OceanTeacher Academy started in 2005 with the establishment of the IOC Project Office for IODE in Oostende, Belgium.

From a training system that focused entirely on oceanographic data and information management, OceanTeacher has gradually developed into a multi-purpose training system focusing on several IOC (e.g. HAB, ICAM, MSP) as well as non-IOC (e.g. SeaDataNet, EUMETSAT) programmes. Ultimately OceanTeacher should be able to provide a multi-disciplinary training platform. Cooperation between SeaDataNet and IODE was established in 2006 within the framework of the first SeaDataNet project. Since then 5 training courses were organised at the IOC Project Office for IODE, involving 222 participants. The OceanTeacher e-learning platform is used for the SeaDataNet courses, and ensures that the training course contents, including training videos, are kept freely available in the long term.

In seven years the OceanTeacher Academy has organized over 50 courses for over 1200 students from 120 countries and taught by 20 lecturers. One of the main conclusions is that we cannot provide training to all those who require it from just one location. In addition, the

continuous increase in airfares makes the cost per student quite high. It was therefore decided to, as from 2012, further develop the distance learning capacities of OceanTeacher but, of more importance, to move towards a distributed architecture of regional training facilities. Such a distributed network of training facilities will allow a better focus on local and regional needs, as well addressing the language issue, which has been a recurrent comment from students.

In recent years video conferencing technology has developed remarkably, with increased quality of the communication provided. Videoconferencing systems now provide high quality, interactive visual solutions that improve all facets of education, giving teachers the tools to engage students with more interactive and innovative educational experiences. Ultimately, the technology pays for itself by reducing travel and accommodation cost and increasing the target audience. Video conferencing is therefore being used widely as a cost-effective alternative to expensive and environment unfriendly air travel. Especially large corporations with a global presence have been using this technology intensively. Top Universities have also joined the trend and provide online courses for students dispersed across the planet. Education without borders has become a reality. In developing countries the technology has been used far less due to the cost of necessary equipment and the lack of adequate Internet bandwidth. However these limiting factors are slowly being solved with web-based videoconference applications and the constant increase in available bandwidth.

During its 22nd Session in March 2013, the IODE Committee endorsed the OceanTeacher Global Classroom concept. In the meantime, the OceanTeacher Global-Classroom Pilot Project has been approved for funding; its implementation will start in late 2013, in order to fine-tune the methodology and technology. Discussions have already started with Member States in other regions - namely India, Kenya, Colombia and Spain - to establish similar centres. A successful experiment took place in March 2012, when 2 groups of students attended the same course: one

group at the IODE Project Office in Oostende, Belgium, and another in INCOIS (International Training Centre for Operational Oceanography) in Hyderabad, India.

The real innovation of the new OceanTeacher Global Classroom model is that we will blend traditional classroom-based training with distance learning, by using videostreaming technology to enable multi-site classrooms: a course taught in Oostende can be attended by students in Oostende but also in other Training Centres (e.g. Hyderabad or Mombasa). Similarly, a course taught in Mombasa can be attended also by students in Oostende and Hyderabad. Although the goal is to promote a more local/regional focus we should not forget the importance of bringing

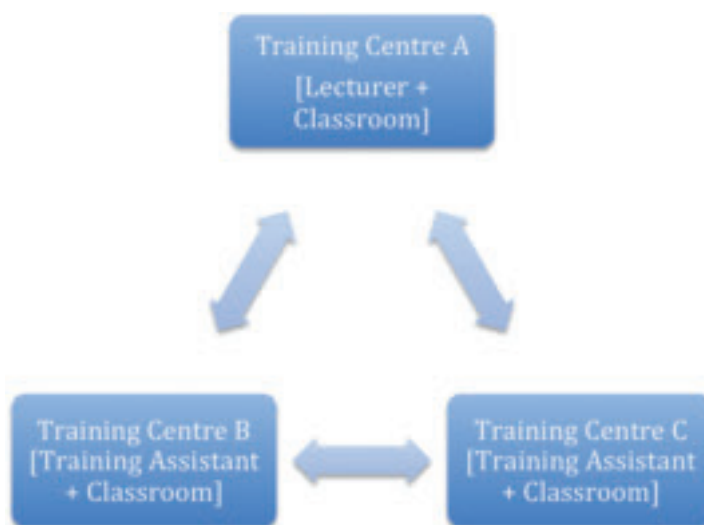


Fig. 1 - Schematic diagram of the OceanTeacher Global Classroom architecture.

together students from different regions to foster south-south and north-south cooperation. By using advanced video conferencing technology we will be able to broadcast courses taught live in one region, to one or more other regional centres or invite individual lecturers to teach a class from their own university or even home. The system will also allow interaction between lecturer(s) and students and training assistant(s) in the other regional centres will be able to provide assistance with practical exercises. Additional benefits include a more efficient time-use for lecturers, less tiring travel for students and lecturers and of course, following from this, reduced carbon emissions. In additional benefit is that more attention can be given to local issues and hands-on support can be provided in local languages (while so far all courses were taught in English).

The expected results of this GlobalClassroom are to: 1) expand the learning experience from OceanTeacher's current 20 students per course to hundred(s); 2) combine focus on local/national/regional priorities while keeping a global perspective; 3) achieve true lecturer flexibility, i.e. make the best lecturers available anywhere in the world without the need for expensive, tiresome and time-consuming travel; 4) link classrooms in geographically dispersed locations; and 5) obtain an improved long-term impact of IODE-OTA capacity building efforts, including Continuous Professional Development (annual updating of capacity).

The OceanTeacher Global Classroom will therefore allow the building of a global course programme enabling lecturers to teach and students to attend courses from their usual place of study or work. Furthermore, using the same baseline curriculum in OceanTeacher we will be able to reach more students in more countries. In addition, through cooperation with local Universities accredited certificates will be issued.